

Appl. No.: 10/617,978  
Amdt. dated July 25, 2006  
Reply to Office action of May 26, 2006

Amendments to the Claims:

1. (Currently Amended) An isolated nucleic acid molecule having a nucleotide sequence selected from the group consisting of:
  - (a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:20;
  - (b) a nucleotide sequence comprising the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14;
  - (c) a nucleotide sequence encoding a polypeptide having at least 95% 90% sequence identity to the amino acid sequence set forth in SEQ ID NO:20, wherein said polypeptide retains pesticidal activity against insect pests of the Homopteran or Lepidopteran orders; and
  - (d) ~~a nucleotide sequence encoding a polypeptide comprising a functional fragment of the amino acid sequence set forth in SEQ ID NO:20, wherein said polypeptide retains pesticidal activity;~~
  - (e) ~~a nucleotide sequence comprising at least 30 contiguous nucleotides of the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14;~~
  - (f) ~~(d) a nucleotide sequence having at least 95% 90% sequence identity to the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity against insect pests of the Homopteran or Lepidopteran orders; and~~
  - (g) ~~a nucleotide sequence consisting of a complement of the nucleotide sequence in (a), (b), (c), (d), (e), (f), or a complement thereof, wherein said sequence encodes a polypeptide having pesticidal activity.~~
2. (Original) An expression cassette comprising a nucleic acid molecule of claim 1, wherein said nucleotide sequence is operably linked to a promoter.

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3. (Original) The expression cassette of claim 2, wherein said promoter is selected from the group consisting of constitutive, inducible, and tissue-preferred promoters.
4. (Original) The expression cassette of claim 2, wherein said promoter is a vascular tissue-preferred promoter.
5. (Original) A host cell expressing a polypeptide encoded by any one of the nucleic acid molecules of claim 1.
6. (Original) The host cell of claim 5, wherein the host cell is selected from the group consisting of fungi, yeast, plant, mammal, and insect cells.
7. (Previously Presented) A virus comprising the isolated nucleic acid of claim 1.
- 8-10. (Canceled)
11. (Previously Presented) A recombinant baculovirus expression vector comprising a nucleotide sequence encoding a polypeptide having the amino acid sequence set forth in SEQ ID NO:20.
12. (Previously Presented) A recombinant baculovirus expression vector comprising a nucleotide sequence encoding a polypeptide consisting of at least 10 contiguous amino acids of SEQ ID NO:20.
13. (Currently Amended) A transformed plant comprising in its genome at least one stably incorporated expression cassette comprising a nucleotide sequence operably linked to a promoter that drives expression in a plant cell, wherein said nucleotide sequence is selected from the group consisting of:

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- (a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:20;
- (b) a nucleotide sequence comprising the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14;
- (c) a nucleotide sequence encoding a polypeptide having at least 95% 90% sequence identity to the amino acid sequence set forth in SEQ ID NO:20, wherein said polypeptide retains pesticidal activity against insect pests of the Homopteran or Lepidopteran orders; and
- (d) ~~a nucleotide sequence encoding a polypeptide comprising a functional fragment of the amino acid sequence set forth in SEQ ID NO:20, wherein said polypeptide retains pesticidal activity;~~
- (e) ~~a nucleotide sequence comprising at least 30 contiguous nucleotides of the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14;~~
- (f) ~~(d)~~ a nucleotide sequence having at least 95% 90% sequence identity to the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity against insect pests of the Homopteran or Lepidopteran orders; and
- (g) ~~a nucleotide sequence consisting of a complement of the nucleotide sequence in (a), (b), (c), (d), (e), (f), or a complement thereof, wherein said sequence encodes a polypeptide having pesticidal activity.~~

14. (Original) The transformed plant of claim 13, wherein said promoter is selected from the group consisting of constitutive, inducible, and tissue-preferred promoters.

15. (Original) The transformed plant of claim 13, wherein said promoter is a vascular tissue-preferred promoter.

16. (Original) The transformed plant of claim 13, wherein said promoter is an insect-inducible promoter.

17. (Original) The transformed plant of claim 13, wherein said plant is a crop plant selected from the group consisting of maize, wheat, sorghum, rice, barley, soybean, alfalfa, sunflower, *Brassica*, and tomato.

18. (Original) The transformed plant of claim 17, wherein said crop plant is rice.

19. (Currently Amended) A transformed seed of the plant of claim 13, comprising in its genome said at least one stably incorporated expression cassette.

20. (Original) The transformed plant of claim 13, wherein said promoter is a vascular tissue-preferred promoter, said plant is rice, and said nucleotide sequence encodes the polypeptide set forth in SEQ ID NO:20 (Aam1).

21. (Original) The plant of claim 13, wherein said plant exhibits altered insect resistance.

22. (Currently Amended) The plant of claim 21, wherein said insect resistance is impacting insects selected from the group consisting of Homopteran, ~~Hymenopteran~~, and Lepidopteran species.

23. (Currently Amended) A method for altering plant insect pest resistance, said method comprising stably transforming into a plant cell a nucleotide sequence operably linked to a promoter that drives expression in said plant cell, and regenerating a plant from said plant cell, wherein said nucleotide sequence comprises a nucleotide sequence selected from the group consisting of:

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- (a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:20;
- (b) a nucleotide sequence comprising the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14;
- (c) a nucleotide sequence encoding a polypeptide having at least 95% 90% sequence identity to the amino acid sequence set forth in SEQ ID NO:20, wherein said polypeptide retains pesticidal activity against insect pests of the Homopteran or Lepidopteran orders; and
- (d) ~~a nucleotide sequence encoding a polypeptide comprising a functional fragment of the amino acid sequence set forth in SEQ ID NO:20, wherein said polypeptide retains pesticidal activity;~~
- (e) ~~a nucleotide sequence comprising at least 30 contiguous nucleotides of the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14;~~
- (f) ~~(d) a nucleotide sequence having at least 95% 90% sequence identity to the coding sequence set forth in nucleotides 73-249 of SEQ ID NO:17 or nucleotides 64-240 of SEQ ID NO:14, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity against insect pests of the Homopteran or Lepidopteran orders.; and~~
- (g) ~~a nucleotide sequence consisting of a complement of the nucleotide sequence in (a), (b), (c), (d), (e), (f), or a complement thereof, wherein said sequence encodes a polypeptide having pesticidal activity.~~

24. (Original) The method of claim 23, wherein said promoter is selected from the group consisting of constitutive, inducible, and tissue-preferred promoters.

25. (Original) The method of claim 23, wherein said promoter is a vascular tissue-preferred promoter.

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26. (Original) The method of claim 23, wherein said promoter is an insect-inducible promoter.

27. (Canceled)

28. (Previously Presented) The method of claim 23, wherein said promoter is a vascular tissue preferred promoter, said plant is rice, said nucleotide sequence encodes the polypeptide set forth in SEQ ID NO:20 (Aam1), and said plant possesses altered insect resistance to both Homopteran and Lepidopteran species of insects.

29. (Original) The method of claim 28, wherein said Lepidopteran species of insect is resistant to a Bt toxin.

30. (Original) The method of claim 23, wherein said plant is a crop plant selected from the group consisting of maize, wheat, sorghum, rice, barley, soybean, alfalfa, sunflower, *Brassica*, and tomato.

31. (Currently Amended) The method of ~~claim 27~~claim 23, wherein said insect resistance impacts insects selected from the group consisting of Homoptera; and Lepidoptera; and Hymenoptera.

32-37. (Canceled)

38. (Previously Presented) The nucleic acid molecule of claim 1, wherein said nucleotide sequence encoding said polypeptide further comprises an operably linked sequence encoding a signal peptide.

39. (Previously Presented) The nucleic acid molecule of claim 38, wherein said polypeptide comprises the amino acid sequence set forth in SEQ ID NO:20, and said nucleotide sequence comprises the sequence set forth in SEQ ID NO:17 or SEQ ID NO:14.

40. (Previously Presented) The transformed plant of claim 13, wherein said nucleotide sequence encoding said polypeptide further comprises an operably linked sequence encoding a signal peptide.

41. (Previously Presented) The transformed plant of claim 40, wherein said polypeptide comprises the amino acid sequence set forth in SEQ ID NO:20, and said nucleotide sequence comprises the sequence set forth in SEQ ID NO:17 or SEQ ID NO:14.

42. (Previously Presented) The method of claim 23, wherein said nucleotide sequence encoding said polypeptide further comprises an operably linked sequence encoding a signal peptide.

43. (Previously Presented) The method of claim 42, wherein said polypeptide comprises the amino acid sequence set forth in SEQ ID NO:20, and said nucleotide sequence comprises the sequence set forth in SEQ ID NO:17 or SEQ ID NO:14.